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## **‘YouTestTube.com’: using user-generated video to engage students**

Stephen McClean and W. Paul Hagan

### **Aims and objectives**

We have reported previously through the STAR project at the University of Ulster (McClean *et al.*, 2006), on developments and enhancements made to the teaching of chemistry to year one bioscience students using a raft of measures to support the student learning experience and ease transition. Further reflection on our practice led to a deeper consideration of year one chemistry practical classes, and how these may enhance inclusivity and contribute to students building friendship networks during semester one, particularly in a large year one class. This development is timely in the light of recent articles looking specifically at the delivery of laboratory classes in higher education (Collis *et al.*, 2007, 2008; Adams, 2009).

The main objective of our study was to increase the learning value of these time-intensive resource-expensive teaching sessions, realising that practicals are often forgotten about once the class has ended and the mark and feedback have been received. We considered that prompting critical reflection during and after practical classes may help students to engage better with practical work and see how the material relates to lectures and how it fits with the course content as a whole.

This is no mean task – however looking to popular media provided some inspiration.

Video sharing on internet community sites such as YouTube and Bebo has become very popular in recent times. In addition, video as a tool to capture a physiotherapy student’s personal experience of placement has been described (Hellawell, 2007), while the use of video in higher education, particularly in the bioscience field, has also been reported (Badge *et al.*, 2008; Shearer, 2008).

We sought to use the medium of video sharing to promote critical

reflection among undergraduate students as well as building a sense of community early in their academic careers. The nature of the project lent itself well to helping to engender friendship networks in a large first year group (ca. 130) with a broad ediversity.

### Description of the project

A domain name 'YouTestTube.com' was registered and a video sharing website built using Vidiscript software (www.vidiscript.com) which allows for the uploading and sharing of videos in a manner similar to the internet video-sharing website YouTube. A screen shot of the website is shown in Figure 1.

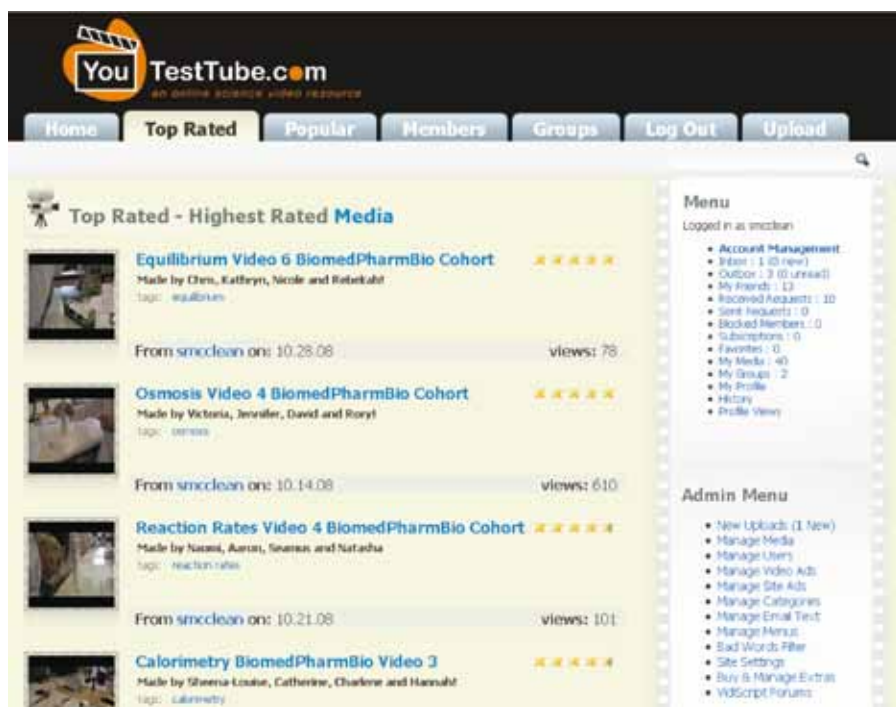


Figure 1. Screenshot of the YouTestTube.com Website.

The site was hosted on a University of Ulster webserver with password protection. Students had to register on the site and join the chemistry practical group before they could view videos. This provided the group with the reassurance that only the students on the module and the module teaching team had access to the site.

Three video cameras were available and provided to three groups of students for each practical session. Students were asked to record their video (around 10 minutes duration) during the laboratory session, paying attention to key observations from the experiments conducted, difficulties encountered and conclusions drawn. They were also asked to reflect on how the skills gained in the key aspects of chemistry fit into their overall program of study. Students were provided with a series of 'reflective prompts' that should be covered in the video and included the following:

- What is this practical all about?
- What skills have I learned?
- How does this practical tie-in with the lectures?
- How will this be important for other parts of my course?
- What parts of the practical were difficult?
- What was most/least enjoyable about the practical?
- If someone else was about to conduct this experiment again, what advice (about the practical) would I give them?

At the end of the laboratory session the cameras were returned to the academic member of staff for downloading of video to a laptop and eventual upload to the server. After each session, students enrolled on the module that had registered on the YouTestTube.com site and signed up for the practical group, could then view, rate and comment on their colleagues' videos.

A prize was given at the end of the semester for the most highly rated and most popular videos. Students were also awarded a small number of coursework marks for engaging in the process of making videos, viewing, rating, making friends, etc. The process was not particularly onerous, as each student had to appear in only one video during the semester.

## **Evaluation**

Feedback was received from students via an anonymous questionnaire as part of module evaluation, at staff-student consultative meetings and through evaluative comments when completing an online questionnaire about their engagement with the process. A total of 105 responses were received via the anonymous

questionnaire where students had to respond to a number of statements with responses ranging from 'strongly agree' to 'strongly disagree'.

Around 86% of students were initially apprehensive about making videos. This is not surprising given that these were year one, semester one students, adapting to life in a much larger learning environment than they had previously been used to. However, by the end of semester, a majority of students agreed or strongly agreed that they enjoyed making the video.

Student evaluation of the technical aspects of the projects is summarised in Figure 2.

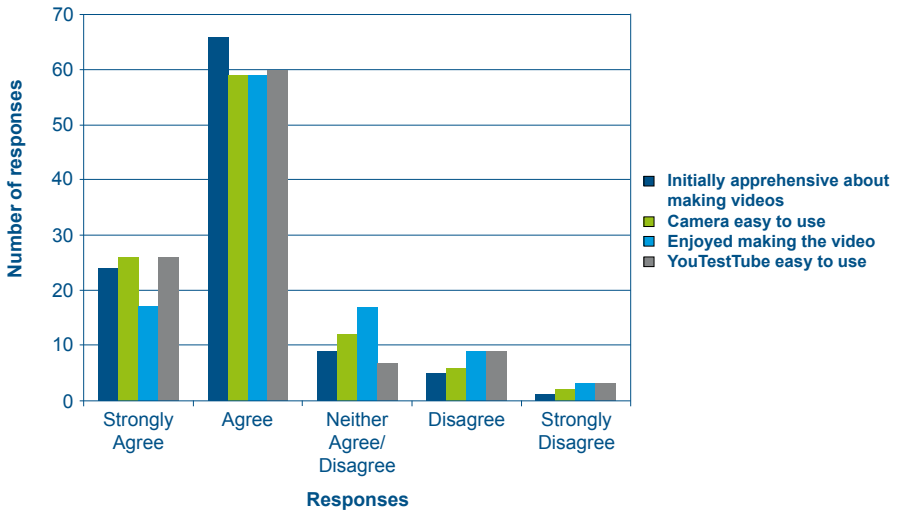


Figure 2. Student responses to technical aspects of the YouTestTube.com project.

Around 81% of students found the camera easy to operate and 82% of students found the YouTestTube.com site easy to use. This came as no surprise, as students in the laboratory needed little instruction on how to use the camera, and the website itself has similar registration processes and functionality to popular social networking websites widely used by students.

Some of the evaluation questions centred on the reflective and social interaction aspects of the project and the responses are summarised in Figure 3.

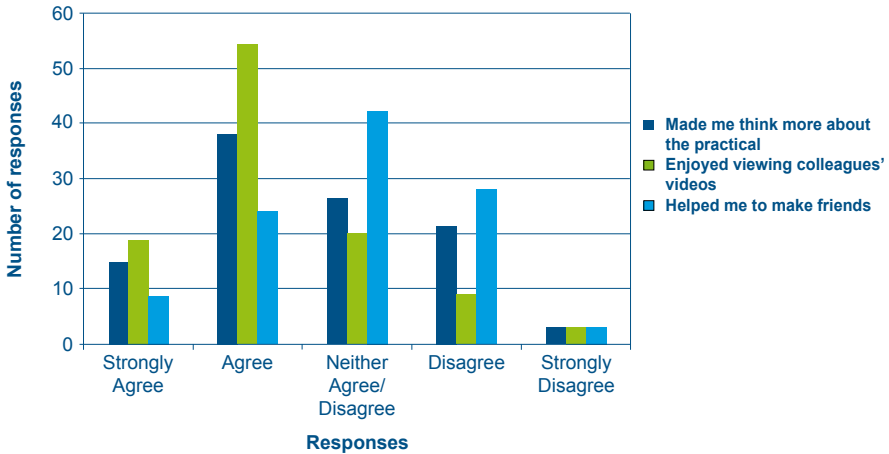


Figure 3. Student responses to reflective aspects of the YouTestTube.com project.

Interestingly, only 51% of students thought that the process had caused them to think more about the practical and how it integrated into their course. Some students expressed the view that the video got in the way of practical work, therefore the decision to restrict the project to one video per student per semester was vindicated, though in a few cases some student groups readily volunteered to make a second video. As backed up by qualitative comments, 69% of students enjoyed viewing other groups' videos, and this was further evidenced by the number of hits on individual videos on the website. The most popular video was viewed over 600 times, while others received in excess of 100 views.

While a large number of social comments were posted on each video, only 32% of students agreed that the practice had helped them make friends within the group; 29% disagreed with the statement and 40% of respondents neither agreed nor disagreed. This statistic was initially surprising given some of the comments received from students such as:

“Good way to make friends within class.”

“www.youtesttube.com is a great way to interact with the class as well as learn from the practicals completed throughout the semester. It is a great idea!”

“I found this site very useful and beneficial as it showed how we could have improved our practical and helped with understanding what happened in the reactions that took place.”

“I really enjoyed the experience of making a video, even though when I first heard the idea I wasn't too impressed! The youtesttube site is a great way to review practicals – it's better to see it rather than reading the notes.”

The ‘make friends’ section of the YouTestTube.com site added a powerful social networking angle to the project that had not been anticipated at the outset and will be developed further in future years. Students were able to upload their own avatars, provide a brief biopic and communicate with each other through the online messaging system. Social networking is widely used by university students as evidenced by a MORI report which found that only 5% of the students surveyed claimed never to use it, while 65% said that they used it regularly (MORI, 2007). However, students see social networking sites such as Facebook to be their ‘social space’ and, as recently reported by Madge *et al.* (2009), they consider such sites should be used primarily for social reasons and not for formal teaching purposes. With that in mind we avoided the use of existing social network sites for this project and branded the YouTestTube site to have its own look, feel and identity. We concluded that while students did not necessarily ‘make friends’ through the site it did provide a means whereby they could get to know other people in a large year one group (as evidenced by the comments above). Anecdotally we have observed more conversations taking place between students from the different cohorts represented within the module since the project started, though we have not fully investigated if the reflective video project was a major driver of this.

## **Sustainability**

The practice has been fully embedded into the practical classes for the Introductory Chemistry module and the process was repeated successfully during the 2009-10 academic year. Resource costs initially centred on the procurement of cameras and the configuration of the web server used to host videos. However, with the infrastructure in place, the project can run efficiently from year to year. Staff time is required to ensure that students are enrolled correctly on the site, and during the lab session itself staff members allocate cameras to groups of students, and then upload the video to the server at the end of the session.

It is realised that a video sharing website could also be used to deliver video teaching materials, either in the form of pre-recorded lectures made by staff or proprietary video-based teaching materials. In one study where learning support materials were provided to students either as an audio podcast or by video, it was observed that students engaged much better with video materials. Some students felt that the audio podcast format was too akin to entertainment and not fitting for academic study, but video material generated greater interest and engagement from the class (Cann, 2007).

While the YouTestTube project was initially piloted in a science setting, the process could be readily transferred to other disciplines. Video sharing on a social networking site provides a collaborative environment which engenders peer learning and the sharing of resources. It could be effectively used in distance learning courses or for students on placement, and the social network function could allow for peer assessment of presentations or debates.

Other applications of this approach could be:

- Filming of student presentations for peer assessment;
- Student generated video documentaries for peer learning exercises;
- Video diaries of placement experiences followed by reflection using the online commenting system;
- Gathering video resources from the internet for sharing with the module group;



- Video of debates and discussion on ethical issues; further discussion could then take place online; and,
- 'Day in the life' videos for new students coming to university.

## Resources

There is a resource list available from the UK Centre for Bioscience to support the use of digital video in teaching and learning which includes examples from other disciplines apart from the Biosciences. <http://www.bioscience.heacademy.ac.uk/ftp/events/repforum09/video.pdf> (accessed 19 May 2010).

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